AMENDMENT

Claims 1-288 (canceled).

289. (Original) A method of producing a collinear beam of electromagnetic energy having two constituent parts, comprising:

[a] providing a primary beam of electromagnetic energy having a predetermined range of wavelengths, randomly changing orientations of a chosen component of electromagnetic wave field vectors, and a substantially uniform flux intensity substantially across the initial beam of electromagnetic energy;

[b] resolving the primary beam of electromagnetic energy into a primary first resolved beam of electromagnetic energy having substantially a first selected predetermined orientation of a chosen component of the electromagnetic wave field vectors and a primary second resolved beam of electromagnetic energy having substantially a second selected predetermined orientation of a chosen component of the electromagnetic wave field vectors;

[c] altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of a plurality of portions of each of the primary resolved beams of electromagnetic energy by passing the plurality of portions of each of the primary resolved beams of electromagnetic energy through a respective one of a plurality of altering means whereby the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the primary resolved beams of electromagnetic energy is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the primary resolved beams of electromagnetic energy passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors;

[d] [i] resolving from the first altered primary first resolved beam of electromagnetic energy a first resolved beam of electromagnetic energy having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors, and

[ii] resolving from the second altered primary first resolved beam of electromagnetic energy a first resolved beam of electromagnetic energy having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors, and

[e] merging one of the resolved beams of electromagnetic energy from the altered primary first resolved beam of electromagnetic energy with one of the resolved beams of electromagnetic energy from the second altered primary resolved beam of electromagnetic energy into a first single collinear beam of electromagnetic energy.

290. (Original) A method as described in claim 289 wherein step [b] includes resolving the primary beam into primary first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors has the same selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors.

291. (Original) A method as described in claim 289 wherein step [b] includes resolving the primary beam into primary first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors has a selected predetermined orientation of the chosen component of the electromagnetic wave field vectors different from the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors.

292. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged resolved beams has a different selected predetermined orientation of a chosen component of electromagnetic wave field vectors from the plurality of portions of the other merged resolved beam.

293. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel and noncoincident to the plurality of portions of the other merged beam.

294. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel and partially coincident to the plurality of portions of the other merged beam.

295. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel and simultaneous to the plurality of portions of the other merged beam.

296. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel, noncoincident and simultaneous to the plurality of portions of the other merged beam.

297. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel, partially coincident and simultaneous to the plurality of portions of the other merged beam.

298. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors as the plurality of portions of the other merged beam.

299. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors as the plurality of portions of the other merged beam and each merged beam has its plurality of portions parallel and noncoincident to the plurality of portions of the other merged beam.

300. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors as the plurality of portions of the other merged beam and each merged beam has its plurality of portions parallel and partially coincident to the plurality of portions of the other merged beam.

301. (Original) A method as described in claim 289 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors as that of the plurality of portions of the other merged beam and each merged beam having its plurality of portions parallel and simultaneous to the plurality of portions of the other merged beam.

302. (Original) A method as described in claim 289 further comprising the step of passing the first single collinear beam of electromagnetic energy to a projection means.

303. (Original) A method of producing a collinear beam of light having two constituent parts, comprising:

[a] providing a primary beam of light having a predetermined range of wavelengths randomly changing orientations of a chosen component of electric field vectors, and a substantially uniform flux intensity substantially across the initial beam of light;

[b] resolving the primary beam of light into a primary first resolved beam of light having substantially a first selected predetermined orientation of a chosen component of the electric field vectors and a primary second resolved beam of light having substantially a second selected predetermined orientation of a chosen component of the electric field vectors;

[c] altering the selected predetermined orientation of the chosen component of the electric field vectors of a plurality of portions of each of the primary resolved beams of light by passing the plurality of portions of each of the primary resolved beams of light through a respective one of a plurality of altering means

whereby the selected predetermined orientation of the chosen component of the electric field vectors of the plurality of portions of each of the primary resolved beams of light is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the primary resolved beams of light passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electric field vectors;

[d] [i] resolving from the first altered primary first resolved beam of light a first resolved beam of light having substantially a first selected predetermined orientation of a chosen component of electric field vectors and a second resolved beam of light having substantially a second selected predetermined orientation of a chosen component of electric field vectors, and

[ii] resolving from the second altered primary first resolved beam of light a first resolved beam of light having substantially a first selected predetermined orientation of a chosen component of electric field vectors and a second resolved beam of light having substantially a second selected predetermined orientation of a chosen component of electric field vectors; and

[e] merging one of the resolved beams of light from the altered primary first resolved beam of light with one of the resolved beams of light from the second altered primary resolved beam of light into a first single collinear beam of light.

304. (Original) A method as described in claim 303 wherein step [b] includes resolving the primary beam into primary first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electric field vectors has the same selected predetermined orientation of the chosen component of the electric field vectors of the second selected predetermined orientation of the chosen component of the electric field vectors.

305. (Original) A method as described in claim 303 wherein step [b] includes resolving the primary beam into primary first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electric field vectors has a selected predetermined orientation of the chosen component of the electric field vectors different from the second selected predetermined orientation of the chosen component of the electric field vectors.

306. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged resolved beams has a different selected predetermined orientation of a chosen component of electric field vectors from the plurality of portions of the other merged resolved beam.

307. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel and noncoincident to the plurality of portions of the other merged beam.

308. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel and partially coincident to the plurality of portions of the other merged beam.

309. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel and simultaneous to the plurality of portions of the other merged beam.

310. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel, noncoincident and simultaneous to the plurality of portions of the other merged beam.

311. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which each merged beam has its plurality of portions parallel, partially coincident and simultaneous to the plurality of portions of the other merged beam.

312. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electric field vectors as the plurality of portions of the other merged beam.

313. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electric field vectors as the plurality of portions of the other merged beam and each merged beam has its plurality of portions parallel and noncoincident to the plurality of portions of the other merged beam.

314. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electric field vectors as the plurality of portions of the other merged beam and each merged beam has its plurality of portions parallel and partially coincident to the plurality of portions of the other merged beam.

315. (Original) A method as described in claim 303 wherein step [e] includes merging said resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electric field vectors as that of the plurality of portions of the other merged beam and each merged beam having its plurality of portions parallel and simultaneous to the plurality of portions of the other merged beam.

316. (Original) A method as described in claim 303 further comprising the step of passing the first single collinear beam of electromagnetic energy to a projection means.

317. (Original) A method as described in claim 289 wherein step [a] includes providing a primary beam of ultraviolet.

318. (Original) A system of producing a collinear beam of electromagnetic energy having two constituent parts, comprising:

[a] means for providing a primary beam of electromagnetic energy having a predetermined range of wavelengths, randomly changing orientations of a chosen

component of electromagnetic wave field vectors, and a substantially uniform flux intensity substantially across the initial beam of electromagnetic energy;

[b] means for resolving the primary beam of electromagnetic energy into a primary first resolved beam of electromagnetic energy having substantially a first selected predetermined orientation of a chosen component of the electromagnetic wave field vectors and a primary second resolved beam of electromagnetic energy having substantially a second selected predetermined orientation of a chosen component of the electromagnetic wave field vectors;

[c] means for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of a plurality of portions of each of the primary resolved beams of electromagnetic energy by passing the plurality of portions of each of the primary resolved beams of electromagnetic energy through a respective one of a plurality of altering means whereby the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the primary resolved beams of electromagnetic energy is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the primary resolved beams of electromagnetic energy passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors;

[d] [i] means for resolving from the first altered primary first resolved beam of electromagnetic energy a first resolved beam of electromagnetic energy having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors, and

[ii] means for resolving from the second altered primary first resolved beam of electromagnetic energy a first resolved beam of electromagnetic energy having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors; and

[e] means for merging one of the resolved beams of electromagnetic energy from the altered primary first resolved beam of electromagnetic energy with

one of the resolved beams of electromagnetic energy from the second altered primary resolved beam of electromagnetic energy into a first single collinear beam of electromagnetic energy.

319. (Original) A system as described in claim 318 wherein the means for resolving the primary beam into first and second resolved beams includes means for resolving the primary beam into first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors has the same selected predetermined orientation of the chosen component of the electromagnetic wave field vectors as the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors.

320. (Original) A system as described in claim 318 wherein the means for resolving the primary beam into first and second resolved beams includes means for resolving the primary beam into first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors has the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors different from the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors.

321. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged resolved beams has a different selected predetermined orientation of a chosen component of electromagnetic wave field vectors from the plurality of portions of the other merged resolved beam.

322. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and noncoincident to the plurality of portions of the other merged beam.

323. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and partially coincident to the

plurality of portions of the other merged beam.

324. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and simultaneous to the plurality of portions of the other merged beam.

325. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel, noncoincident and simultaneous to the plurality of portions of the other merged beam.

326. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel, partially coincident and simultaneous to the plurality of portions of the other merged beam.

327. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors as the plurality of portions of the other merged beam.

328. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors of the plurality of portions of the other merged beam and each merged beam has its plurality of portions parallel and noncoincident to the plurality of portions of the other merged beam.

329. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected

predetermined orientation of a chosen component of electromagnetic wave field vectors of the plurality of portions of the other merged beam and each merged beam has its plurality of portions parallel and partially coincident to the plurality of portions of the other merged beam.

330. (Original) A system as described in claim 318 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors of the plurality of portions of the other merged beam and each merged beam having its plurality of portions parallel and simultaneous to the plurality of portions of the other merged beam.

331. (Original) A system as described in claim 318 further comprising means for passing the first single collinear beam of electromagnetic energy to a projection means.

332. (Original) A system of producing a collinear beam of light having two constituent parts, comprising:

[a] means for providing a primary beam of light having a predetermined range of wavelengths, randomly changing orientations of a chosen component of electric field vectors, and a substantially uniform flux intensity substantially across the initial beam of light;

[b] means for resolving the primary beam of light into a primary first resolved beam of light having substantially a first selected predetermined orientation of a chosen component of the electric field vectors and a primary second resolved beam of light having substantially a second selected predetermined orientation of a chosen component of the electric field vectors;

[c] means for altering the selected predetermined orientation of the chosen component of the electric field vectors of a plurality of portions of each of the primary resolved beams of light by passing the plurality of portions of each of the primary resolved beams of light through a respective one of a plurality of altering means whereby the selected predetermined orientation of the chosen component of the electric field vectors of the plurality of portions of each of the primary resolved beams

of light is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the primary resolved beams of light passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electric field vectors;

[d] [i] means for resolving from the first altered primary first resolved beam of light a first resolved beam of light having substantially a first selected predetermined orientation of a chosen component of electric field vectors and a second resolved beam of light having substantially a second selected predetermined orientation of a chosen component of electric field vectors, and

[ii] means for resolving from the second altered primary first resolved beam of light a first resolved beam of light having substantially a first selected predetermined orientation of a chosen component of electric field vectors and a second resolved beam of light having substantially a second selected predetermined orientation of a chosen component of electric field vectors; and

[e] means for merging one of the resolved beams of light from the altered primary first resolved beam of light with one of the resolved beams of light from the second altered primary resolved beam of light into a first single collinear beam of light.

333. (Original) A system as described in claim 332 wherein the means for resolving the primary beam into first and second resolved beams includes means for resolving the primary beam into first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electric field vectors has the same selected predetermined orientation of the chosen component of the electric field vectors as the second selected predetermined orientation of the chosen component of the electric field vectors.

334. (Original) A system as described in claim 332 wherein the means for resolving the primary beam into first and second resolved beams includes means for resolving the primary beam into first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electric field vectors has the selected predetermined orientation of the chosen component of the electric field vectors different from the second selected predetermined orientation of the chosen

component of the electric field vectors.

335. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged resolved beams has a different selected predetermined orientation of a chosen component of electric field vectors from the plurality of portions of the other merged resolved beam.

336. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and noncoincident to the plurality of portions of the other merged beam.

337. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and partially coincident to the plurality of portions of the other merged beam.

338. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and simultaneous to the plurality of portions of the other merged beam.

339. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel, noncoincident and simultaneous to the plurality of portions of the other merged beam.

340. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel, partially coincident and simultaneous to the plurality of portions of the other merged beam.

341. (Original) A system as described in claim 332 wherein the means for merging

the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electric field vectors as the plurality of portions of the other merged beam.

342. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electric field vectors of the plurality of portions of the other merged beam and each merged beam has its plurality of portions parallel and noncoincident to the plurality of portions of the other merged beam.

343. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electric field vectors of the plurality of portions of the other merged beam and each merged beam has its plurality of portions parallel and partially coincident to the plurality of portions of the other merged beam.

344. (Original) A system as described in claim 332 wherein the means for merging the resolved beams includes means for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electric field vectors of the plurality of portions of the other merged beam and each merged beam having its plurality of portions parallel and simultaneous to the plurality of portions of the other merged beam.

345. (Original) A system as described in claim 332 further comprising means for passing the first single collinear beam of light to a projection means.

346. (Original) A system as described in claim 318 wherein the means for

providing a primary beam includes providing a primary beam of ultraviolet.

Claims 347-438 (canceled).